

IN THE CLAIMS:

Claims 1-19 (canceled)

Claim 20 (new): A vacuum treatment installation, comprising:

a vacuum treatment chamber (1);

a DC plasma discharge configuration in the chamber;

a gas supply configuration connected to the chamber;

the DC plasma discharge configuration having at least two plasma beam discharge configurations (5, 9), each having a distinct pair of cathode and anode electrodes defining a plasma beam directional axis (A) extending from one electrode to the other electrode of the respective pair of cathode and anode electrodes, said plasma beam directional axes of said at least two plasma beam discharge configurations being one beside the other and mutually parallel and each generating a plasma beam with a maximum density peak in a plane perpendicular to said plasma beam discharge directional axes, the distance between said cathode and anode electrodes of each of said pairs being substantially larger than the mutual distance of said parallel beam directional axes; at least one deposition configuration establishing for a surface to be treated being positioned along a surface (13) which is exposed to said at least two plasma beams as generated by said at least two plasma beam discharge configurations, said surface being exposed extending along a substantial section of said plasma beam directional axes, each area of said surface (13) being exposed having a distance to the nearest of said at least two plasma beam directional axes which is substantially shorter than said distance between said cathode and anode electrodes of each of said pairs;

a gas suction configuration connected to the chamber;

the gas supply configuration and the gas suction configuration being connected to the vacuum chamber such that a gas flow through the chamber is generated which is substantially parallel to said plasma beam directional axes (A).

Claim 21 (new): The vacuum treatment installation of claim 20, wherein said plasma discharge configuration has two sets of said plasma beam discharge configurations, each set having at least two of said plasma beam discharge configurations, said deposition configuration establishing for two parallel surfaces to be treated, each of said surfaces to be treated being exposed respectively to the plasma beam directional axes of one of said two sets of plasma beam discharge configurations.

Claim 22 (new): The vacuum treatment installation according to claim 20, wherein said deposition configuration establishes for two surfaces to be treated which are facing each other and wherein said plasma beam directional axes are located in between said surfaces to be treated.

Claim 23 (new): The installation of claim 20, wherein said deposition configuration is formed by a workpiece support configuration for one or several workpieces with said surface to be treated.

Claim 24 (new): The installation of claim 20, wherein said surface to be treated is a powder capture surface.

Claim 25 (new): The installation of claim 20, wherein said plasma beam discharge configurations include respective power supplies to said anode and cathode electrodes generating a low-voltage high-current supply.

Claim 26 (new): The installation of claim 25, wherein said plasma beam discharge configurations are operable independently of one another.

Claim 27 (new): The installation of claim 20, wherein at least one of said cathode electrodes is a cold cathode.

Claim 28 (new): The installation of claim 20, wherein at least one of said cathode electrodes is a hot cathode.

Claim 29 (new): The installation of claim 20, wherein the gas supply configuration is connected to a gas tank configuration containing at least one of a carbon-, boron-, nitrogen-, hydrogen-, silicon-containing gas.

Claim 30 (new): The installation of claim 20, wherein said deposition configuration is stationary with respect to said plasma beam directional axes, considered in direction of said plasma beam directional axes.

Claim 31 (new): The installation of claim 20, further comprising a Helmholtz coil arrangement adapted to generate a magnetic field that is substantially parallel to said plasma beam directional axes.